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| PIUI 7004 | Urban Infrastructure Management & Regulation | L | T | P | C |
| Version 1.0 | | 3 | 0 | 0 | 3 |
| Pre-requisites/Exposure | Graduate | | | | |
| Co-requisites | Good Command in MS Word and MS Powerpoint | | | | |

Course Objectives

- a) To design infrastructure delivery systems with a focus on the policy makers, developers and users.
- b) To measure the full demand for infrastructure services needed.
- c) To measure the extent of demand of infrastructure type according to location
- d) To determine the importance of infrastructure investments for supporting socioeconomic development.

Course Outcomes

On completion of this course, the students will be able to

| | |
|------------|---|
| CO1 | Understanding the mitigation concept of the issues & challenges in the Urban Development Sector |
| CO2 | To Develop skills required for Urban Infrastructure planning & formulation. |
| CO3 | Analyzing the optimization techniques for Urban Infrastructure Planning & Pricing. |
| CO4 | To integrate the learnings in the processes for Urban Infrastructure project execution and control. |
| CO5 | To analyse the contracting process as applied in Urban Infrastructure projects |

Catalog Description

This course explores important substantive areas and concepts in the field of urban and regional planning and current urban planning and policy issues and debates. Topics include: forces that have historically guided and are currently guiding India's urbanization; land use, growth management, transportation and traffic congestion, economic development, housing and community development, environmental planning; legal, environmental, governmental contexts.

Course Content

Unit I: **4.5 lecture hours**

Overview of urbanization process, Urban Scenario in India , Status of Urban Infrastructure in Indian cities, Related policies and Management issues

Unit II: **6 lecture hours**

Provisions of the Constitution 74th Amendment Act, 1992, Other Municipality Legislations rules, Municipality laws for USA and GB, Structures of Urban Local Body, Responsible agencies

Unit III: 7.5 lecture hours

Policy initiatives by central and state Governments, JnNURM Phase 1 & 2, AMRUT, BSUP & UIDSSMT, Reforms needed for urban sustainability, NUTP 2006, SWM 2000

Unit IV: 6 lecture hours

Methods of Benchmarking performance, Monitoring and evaluation system, GIS Applications, Importance of urban Planning, R-APDRP, DPR preparation

Unit V: 12 lecture hours

Strategies and ways to improve the resource mobilizations, Accounting and financial management reforms, Municipality bonds, PPP in urban infrastructure, Urban Infrastructure Planning, Water Balance, Solar roof top planning, Rain water Harvest, Various types of Metro Rail models

Text Books and Journals

1. Report on Indian Urban Infrastructure and Services.
2. Mckinsey report on Urbanization.
3. HANDBOOK ON SERVICE LEVEL BENCHMARKING
4. Lectures from MIT and IITs

Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination

Examination Scheme:

| Components | Presentation/Assignment/Projects etc | ESE |
|---------------|--------------------------------------|-----|
| Weightage (%) | 50 | 50 |

Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

Program Outcomes (POs & PSOs)

| Mapping between COs and POs | | |
|-----------------------------|---|------------------------------|
| | Course Outcomes (COs) | Mapped Programme Outcomes |
| CO1 | Understanding the mitigation concept of the issues & challenges in the Urban Development Sector | PO 1,2,4,7,8,9,10, 11,13, 14 |
| CO2 | To Develop skills required for Urban Infrastructure planning & formulation. | PO 1,2, 3,8,9,10, 11,14 |
| CO3 | Analyzing the optimization techniques for Urban Infrastructure Planning & Pricing. | PO 1,2, 3, 8,9,10, 11, 13,14 |
| CO4 | To integrate the learnings in the processes for Urban Infrastructure project execution and control. | PO 4,5, 8,12,13, 14 |
| CO5 | To analyse the contracting process as applied in Urban Infrastructure projects | PO 1,2, 3, 4,8,13,14 |

| CourseOutcomes | CO 1 | CO 2 | CO 3 | CO 4 | CO5 |
|----------------|------|------|------|------|-----|
| PO 1 | 3 | 3 | 2 | 2 | 3 |
| PO 2 | 3 | 3 | 2 | 2 | 3 |
| PO 3 | 2 | 3 | 2 | 2 | 3 |
| PO 4 | 3 | 2 | 3 | 3 | 3 |
| PO 5 | 2 | 2 | 3 | 3 | 2 |
| PO 6 | 2 | 2 | 2 | 2 | 2 |
| PO 7 | 3 | 2 | 2 | 2 | 2 |
| PO 8 | 3 | 3 | 3 | 3 | 3 |
| PSO 9 | 3 | 3 | 3 | 2 | 2 |
| PSO 10 | 3 | 3 | 3 | 2 | 2 |
| PSO 11 | 3 | 3 | 3 | 2 | 2 |
| PSO 12 | 2 | 2 | 2 | 3 | 2 |
| PSO 13 | 3 | 2 | 3 | 3 | 3 |
| PSO 14 | 3 | 3 | 3 | 3 | 3 |

| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO 12 | PO13 | PO14 |
|-------------|--------------|--|---|--|--|--|---|--|--|---|--|---|---|--|--|
| | | Students will demonstrate strong conceptual knowledge and execution in soft and hard infrastructure planning, development, management, financing, regulation and governance. | Students will demonstrate effective understanding of infrastructure planning and development, utility & energy management, urban transportation including metro rail, e-vehicle with charging and other modes of urban surface transportation, water supply and sewerage, smart city planning and effective financing urban infrastructure. | Students will demonstrate analytical skills to understand issues with remedial solutions relating to urban infrastructure. of soft and hard infrastructure | Students will exhibit the ability to integrate planning, construction & development, operation & management, financing, regulation and governance of urban infrastructure projects and facilities. | Students will exhibit the ability to integrate technical, economic, social and regulatory frameworks for urban infrastructure sector planning and resource management. | Students will exhibit deployable skills pertinent to urban hard and soft infrastructure sector and smart city development and management. | Students will be able to develop and evaluate alternate managerial choices and identify optimal solutions. | Students will demonstrate effective application capabilities of their conceptual understanding to infrastructure planning, development and management. | Students will be able to exhibit effective decision-making skills, employing analytical and critical thinking ability for planning, development and management of soft and hard infrastructure. | Students will demonstrate effective oral and written communication skills in the professional context. | Students will be able to work effectively in teams and demonstrate team-working capabilities. | Students will exhibit leadership and networking skills. | Students will demonstrate sensitivity towards ethical and moral issues and have ability to address them in the context of urban planning, development and management including cost effective financing and good governance. | Students will demonstrate employability traits in line with the needs of changing hard and soft urban infrastructure sector. |

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| PIUI 7004 | Urban Infrastr ucture Manag ement & Regula tion | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 |
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1=weakly mapped
2= moderately mapped
3=strongly mapped

Model Question Paper

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| Name: Enrolment No: | |
| Course: PIUI 7004- Urban Infrastructure Management & Regulation Programme: MBA UISC Semester: Even Time: 03 hrs. Max. Marks:100 | |
| Instructions: Section A (each carrying 2 marks); Attempt all questions from Section B (each carrying 5 marks). Any Two Questions from Section C (carrying 15 marks). Case Study Section D (30 Marks) | |
| Section A () Define the following | |
| 1 | Political Risks [2] CO1 |
| 2 | FSI/FAR [2] CO5 |
| 3 | Urbanism [2] CO2 |
| 4 | Urban Agglomeration. [2] CO2 |
| 5 | Structural Transformation [2] CO3 |
| 6 | Hokou [2] CO1 |
| 7 | Financial Risks [2] CO2 |
| 8 | Urban Area. [2] CO4 |

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| 9 | MoUD | [2] | CO4 |
| 10 | Decongestion | [2] | CO2 |
| SECTION B (Attempt all Questions) | | | |
| 11 | What are the basic rules for framing CDP? | [5] | CO4 |
| 12 | List out any 4 reforms that have become mandatory for state government and ULBs to avail funding as per the norms of JNNURM. | [5] | CO2 |
| 13. | Name any 8 Functions or powers that had been transferred to ULBs. | [5] | CO5 |
| | Explain Pool Financing. | [5] | CO1 |
| SECTION C (Attempt any Two Questions) | | | |
| 14. | 1. How an Urban Transport Planning is done? Draw a flowchart also. | [15] | CO4 |
| 15. | 2. Explain Municipality Credit Rating process. | [15] | CO4 |
| 16 | 3. Write a note on Water Service Delivery in India. | [15] | CO5 |
| SECTION D (Case Study) | | | |
| | Case Study | [30] | CO3 |
| | <p>Urbanization has become the talk of the hour. Growth of Industries specially service sector had contributed to the growth of cities. As a result of industrialization people have started moving towards the industrial areas in search of employment. This has resulted in the growth of towns and cities from tier 1 to tier 3.</p> <p>Urbanization denotes a diffusion of the influence of urban centers to a rural hinterland. Urbanization can also be defined as a process or rate of concentration of population in a particular urban area.</p> <p>Causes of Urbanization:</p> <p>Various reasons have led to the growth of cities. They are as follows:</p> <p>i. Industrialization:</p> <p>Industrialization is a major cause of urbanization. It has expanded the employment opportunities. Rural people have migrated to cities on account of better employment opportunities.</p> <p>ii. Social factors:</p> <p>Many social factors such as attraction of cities, better standard of living, better educational facilities, need for status also induce people to migrate to cities.</p> <p>iii. Employment opportunities:</p> | | |

In rural sector people have to depend mainly on agriculture for their livelihood. But Indian agriculture is depending on monsoon. In drought situations or natural calamities, rural people have to migrate to cities.

iv. Modernization:

Urban areas are characterized by sophisticated technology better infrastructure, communication, medical facilities, etc. People feel that they can lead a comfortable life in cities and migrate to cities.

Rural urban transformation:

It is an interesting aspect that not only cities are growing in number but rural community is adopting urban culture, no longer rural communities are retaining their unique rural culture. Rural people are following the material culture of urban people. Urban rural transformation can be observed in the following areas.

Spread of education:

The literacy rate has increased among the rural people. They have become more modernized.

Change in Dress habits.

Adoption of modern Technology

iii. Enlightenment of women.

Modern transport and communication. E.g.: Cell phones have become common even among rural people.

Active involvement in politics.

Growth of infrastructure like Banks, Post office.

vii. Increasing demand for sophisticated products like cosmetics etc.

Thus it can be noticed that there are significant changes in the life style of village people. Indian villages have adopted urban culture and urban style of living. However, all villages in India are not transformed. Only certain villages situated close to the cities have been transformed.

Effect of Urbanization:

With a high rate of urbanization significant changes have taken place. The effect of urbanization can be summed up as follows:

Positive effect:

- Migration of rural people to urban areas.
- Employment opportunities in urban centers.

iii. Transport and communication facilities.

Educational facilities.

Increase in the standard of living.

Urbanization may yield positive effects if it takes place up to a desirable limit. Extensive urbanization or indiscriminate growth of cities may result in negative effects. They may be as follows:

Problem of over population:

Concentration of population is a major problem of cities. It has resulted in accommodation problem, growth of slums etc.

2. Disintegration of Joint family:

Joint family can't be maintained in cities on account of high cost of living: People prefer to live in the nuclear type of families so that cost of living might come down.

iii. Cost of living:

High cost of living is a major problem of cities. In Metro cities like Mumbai, Bangalore etc. it is very difficult for lower income groups to maintain a decent standard of living.

Increase in Crime rates:

Urban centers are known for high rate of crimes. Theft, Murder, Cheating, Pick pocketing, rape etc. are common in urban centers.

2. Impersonal relations:

Urban centers are characterised by highly secondary relations. The concept of neighborhood, community life are almost absent in cities. Urban life is highly monotonous. This may have an adverse psychological effect on individuals. People are often self centered and they have no concern for the fellow human beings.

3. Problem of Pollution:

In industrialized cities pollution is a major problems. It may be caused by industries or by excessive movement of vehicles.

viii. Stress:

Urban life is characterized by stress which may even strain family relations. In cities employment of women is almost inevitable to meet the increasing cost of living. Changing role of women in the family creates stress in the family which may result in divorce or strained relations.

Thus urbanization has its own merits and demerits. Urbanization can't be avoided. But the negative effect of urbanization can be minimised.

Parameters used for calculating Urbanization are:

1. Natural Population growth

2. Rural to Urban Migration.

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| | <p>3. Push Factors</p> <p>4. Pull Factors</p> <p>Question 1: Are all the factors above are correlated? Explain. (10)</p> <p>Question 2: Why cost of living in Urban area is increasing? (10)</p> <p>Question 3: We had seen there is a high rate of migration from Eastern India to other parts of the country. Why this is happening? How can you mitigate it? (10)</p> | | |
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